

CHAPTER 3

CONCEPTUAL FRAMEWORK AND HYPOTHESIS

3.1 Conceptual Framework of Sex difference and Family History in NPC

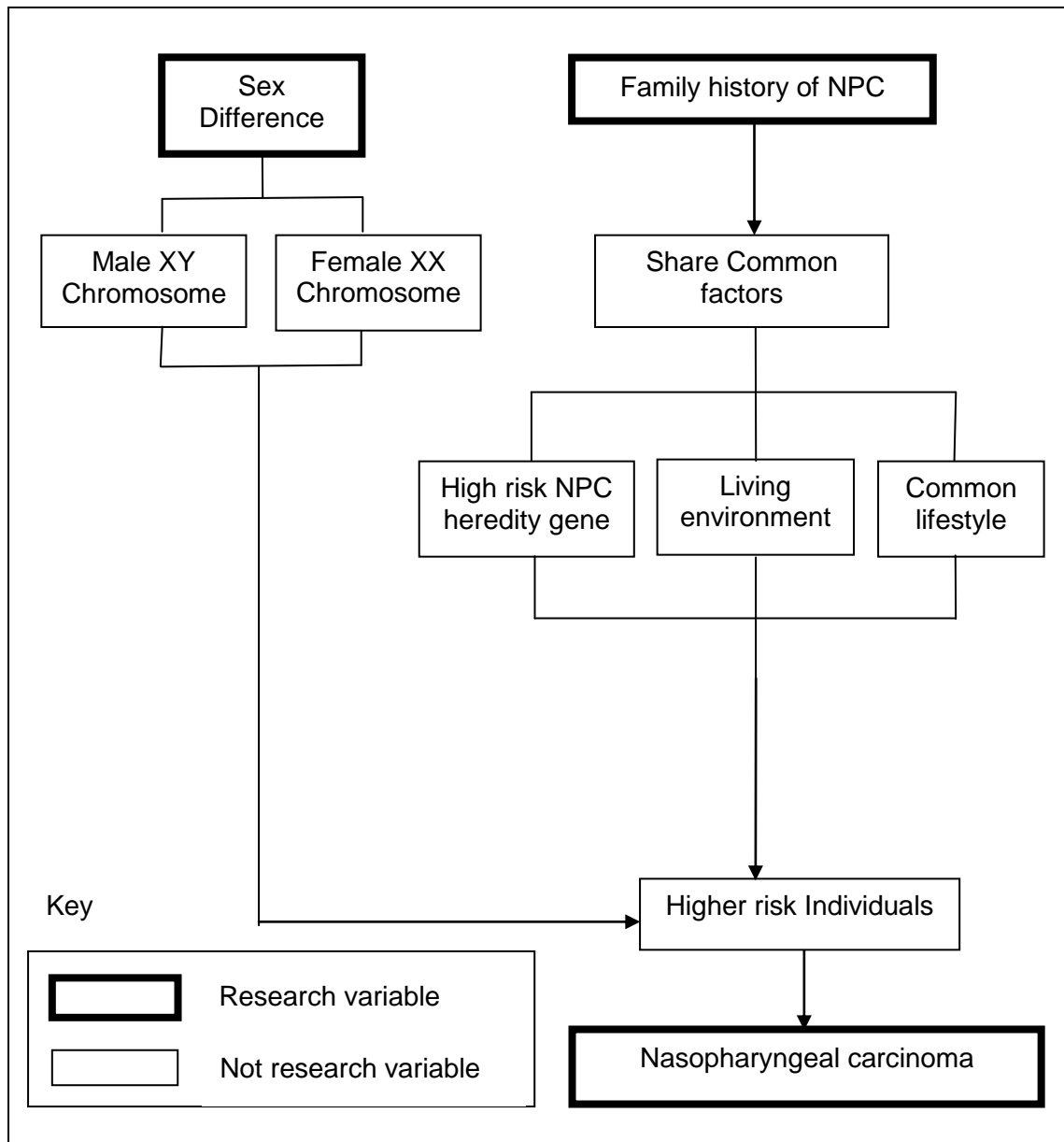


Figure 3.1 Conceptual framework

Explanation:

Family members who have NPC are believed that they are inherited high risk NPC gene from same parents and this might pass down such gene to next generation. Other than inherited genetic, family usually share many common factors which including living environment and common lifestyle such as eat same food and exercise habit. Family members of NPC patients are believed have higher risk to get NPC due to sharing common contact factors as living together.

A study shows that female have advantage in NPC survival regardless tumor stage. Although NPC is predominantly to male and reproductive hormone might involve or have protective effect in neoplastic process, there are no sufficient studies conducted to conclude the relationship between reproductive hormone and NPC. A “3-hits” hypothesis theory had been raised by Wee, the first hit is at TLR8 polymorphism, second hit is early neonatal infection with EBV and the third hit is susceptible HLA. Recently, TLRs haven been shown involve in pathogenesis of cancer. TLR8 gene in East Asians are different from Caucasians and Africans and TLR8 gene also found in X-chromosome (Xp22) and this could explain the link between predominant male incidence in NPC and X-linked recessive polymorphism.

3.2 Hypothesis

- Family history of NPC has positive association with risk of nasopharyngeal carcinoma.
- Sex difference has positive association with risk of nasopharyngeal carcinoma